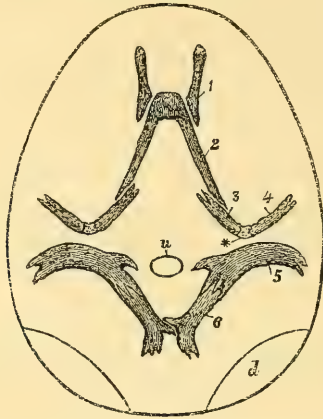


the London-Clay fossil *Platemys Bullocki*, and in the *Pleurosternon* from the Purbeck limestone, these elements extend right across the plastron, so as to entirely separate the hyosternal from the hyposternal bones."—H. G. SEELEY.



Diagrammatic sketch, about natural size, to illustrate the condition of the plastron in the embryonic specimen of *Emyda dura* above described. 1 to 6, the six separate ossific pieces of one side, the second counting but one on both sides, = 11 in all; 3 and 4, the double bony centres of the hyoplastron united by (*) a cartilaginous element, ultimately forming an ossific union between the parts in question; 5 and 6, hypoplastron; *u*, umbilicus; *d*, depression on the general surface of the plastron.

Notes on Lowe's MS. List of Webb's Type Shells from the Canaries (1829), and on the Annotations thereon of D'Orbigny (1839), and Lowe (1860). By the Rev. R. BOOG WATSON, F.R.S.E. & F.G.S. Communicated by J. GWYN JEFFREYS, Esq., Treas.L.S.

[Read April 6, 1876.]

IN the year 1829 Mr. Webb sent to Mr. Lowe, in Madeira, various sea-shells which he had got in the Canaries.

Some ten years later the whole of the fuller material accumulated by Mr. Webb and by M. Berthelot were published under the title 'Mollusques, &c. &c., recueillis aux îles Canaries, par MM. Webb et Berthelot, et décrits par Alcide d'Orbigny.'

In this work M. d'Orbigny refers more than once to unique

specimens as among those which Mr. Webb had sent to Mr. Lowe, and implies dissatisfaction at Mr. Lowe's retention of these, the absence of which marred the completeness of his work.

In 1860 Mr. Lowe published in the 'Proceedings of the Linnean Society' (Zoology, vol. v. pp. 169-204) a List of the Shells observed or collected at Mogador &c., with most valuable notes and observations. In this paper Mr. Lowe makes very frequent reference to D'Orbigny (see pp. 171-174, 188, 189, 190, 197-199); and the whole tone of these references shows that, apart from indignation at the manner in which M. d'Orbigny had done his work, Mr. Lowe resented keenly the way in which allusion had been made to himself.

In 1873 the 'Liberia,' in which Mr. Lowe had sailed for Madeira, disappeared utterly in the Bay of Biscay; and Mr. Lowe's accumulations of marine shells from Madeira, the Canaries, and the Cape-Verds, which seem to have gone on from 1826, were forwarded to me for publication by his executor, Mr. T. V. Wolleston. Among these I have found the identical Canarian shells sent by Mr. Webb, and Mr. Lowe's annotated list, which he had sent back to Mr. Webb—in short, the very material which M. d'Orbigny complained of Mr. Lowe's having retained, and the information which Mr. Lowe objected to M. d'Orbigny having, without acknowledgment, used.

In the interests, then, of truth, as bearing on both these parties, and as needed for the fuller knowledge of the marine Mollusca of the Canaries, this list is of value*. It is as follows:—

"Marine Mollusca from Grand Canaria, Lancerotte, and Fuerteventura, sent by P. B. Webb, Esq. Oct. 29, 1829.

"1. *Lucina pensylvanica*. Differing in the entire, not crisped, epidermis. Var. an sp.?"

D'Orbigny published this as *L. Adansonii*, D'Orb., remarking that "Cette espèce a, par ses lames, encore beaucoup de rapports avec la *L. pensylvanica*; mais une différence notable entre elles, c'est que les lames sont recourbées du côté du sommet dans la *L. pensylvanica*, tandis qu'elles le sont au contraire dans l'espèce qui nous occupe du côté de l'ouverture des valves."

It is not found in Madeira.

"2. *Cardium tuberculatum*."

This is so given by D'Orbigny. It is also found in Madeira.

* The shells themselves I propose to deposit in the British Museum.

"3. *Maetra pullastrina*, nob., *rugosa*, Lamk. A worn shell, and the only one broken. More. New."

This D'Orbigny published as *M. rugosa*, Chemnitz. In Mr. Lowe's note, *Lutraria rugosa*, Lamk., had been first written; then *Lutraria* had been scored out, the words "*rugosa*, Lamk." being left. Then a score was drawn under all these words. Then *Maetra pullastrina*, nob., was written above the line, and the word "New" was written over the word *rare*, so as to erase it.

This species is not found in Madeira.

"4. *Lima squamosa*."

This is so given by D'Orbigny. It is also Madeiran.

"5. *Maetra Adansoni*, nob. Adans. t. 17. f. 17. 'Le Fatan.' Not taken up by Lamk. or any other author. Sadly worn specimens."

This is published by D'Orbigny as *M. striatellata*, Lam. It is not found in Madeira.

"6. *Cardium costatum*. 'Coquille rare et précieuse, surtout lorsqu'on possède les deux valves du même individu,' Lamk."

D'Orbigny publishes this species with the remark that, "MM. Webb et Berthelot l'ont recueillie à Lancerotte."

This is probably one of the exotic species bought at Lancerotte, and the place of whose origin is very doubtfully Canarian. (See Lowe, Mogador shells, p. 188.) It is not found in Madeira.

"7. *Mytilus edulis*, var. *denticulis cardinalibus subbinis*, answers exactly to Adanson's, p. 212, t. 15. f. 4. 'Le Fouet,' a synonym. not heretofore identified. Specimens of *Balanus punctatus* attached to it."

D'Orbigny publishes this as *M. elongatus*, Chem. and Lam., while Weinkauff (Conchyl. d. Mittelmeeres, i. 227) denies that it is the *M. elongatus* of Lam., and gives for it *M. pictus*, Born. Dunker (Index, Moll. p. 47) says it is *M. smaragdinus*, Chem.

I have some very young shells from Madeira, which may possibly be this species.

"8. *Venus verrucosa*."

D'Orbigny identifies this with the *Elonisse* of Adanson, which is a misprint for *Clonisse*.

Madeiran.

"9. *Dolium olearium*, Lamk. The larger size you mention may be *D. galea*. Look well after it."

This species is not enumerated by D'Orb.; and Mr. Edgar Smith, of the British Museum, who has kindly examined for me some of D'Orbigny's types deposited in the British Museum, informs me that *D. olearium* is not in the list, nor among the shells themselves. The specimen sent by Webb is a young shell of *D. galea*, Linn. *D. olearium* is not found in Madeira.

" 10. *Dolium perdia*, Lamk."

Webb's type specimen thus named is the young of *Cassis undulata*, Linn., a species which D'Orb. has given under the name of *C. sulcosa*, Lam. He publishes *Dolium perdia*, Lam., as found in the Canaries; and Mr. E. Smith assures me that the type specimen deposited by D'Orbigny in the British Museum is really of this species. It is not found in Madeira.

" 11. *Voluta Neptuni*, Lam. Capital!"

D'Orbigny publishes this species under this name as Canarian. In the "List of Shells observed at Mogador," already referred to, Mr. Lowe says that this is the *Voluta olla*, Linn. (that name, of course, having priority over that of *Neptuni* of Lamarek); and enumerating various places for its habitat, he adds, in inverted commas, "Lanzarote (*i. e.* opposite coast of Africa), Webb;" and continues, "D'Orbigny's typical Canarian specimen of his *V. Neptuni* in the British Museum is certainly nothing (as before affirmed) but a wretched bleached and battered shell of *V. rubiginosa*, Sw. Yet I possess a small mottled young example of the true *V. Neptuni*, Gm. (= *V. navicula*, Gm.), 2 inches long by 1 inch and 5 lines broad, sent me by Webb in 1829 from Lanzarotte, which, though doubtless of African origin, suffices to forbid the quotation of *V. Neptuni*, D'Orb., in W. B. ii. 2. 85, together with his *V. porcina*, under *Cymbium rubiginosum*, Sw., var. β , with which, however, the existing types of both his species in the British Museum are all equally identical. For this, his *record* of the species as a Canarian (Lanzarotan) shell, though unsupported by the type in his collection, doubtless rests on the authority of a MS. list by myself, with notes or descriptions of all the Canarian shells received by me from Webb, drawn up for, and communicated many years ago (in 1833) to my late friend, of which D'Orbigny has, without acknowledgment, made unsparing use, borrowing most of the new specific names, and arbitrarily changing others, without reference [Note—except in two instances—*Planaxis lavigata*, p. 79, and *Ranella abbreviata*, p. 94. The

'*Planaxis*' is a young example of a *Nassa*, very abundant at Arcife in Lanzarote, and closely allied to *N. mutabilis* (L.)*] to their real author. In this list the small mottled Lanzarotan example of *V. Neptuni*, Gm., above mentioned was included; and it still exists, so marked, in my Canarian (Webbian) collection."

V. Neptuni is not found in Madeira.

"12. *Ranella abbreviata*, nob. So nearly allied to *R. marginata* of Sowerby's 'Genera' (*Buccinum marginatum*, Gmel., and *Ranella lævigata*, Lamk.), a fossil species from Piacenza, that it is hard to say they are distinct. An excellent shell. More."

M. d'Orbigny quotes this species under Mr. Lowe's name, and adds, "MM. Webb et Berthelot, ayant adressé des Canaries à M. Lowe, une collection des coquilles qu'ils avaient de ces îles, et qui comprenait même des espèces uniques, M. Lowe fait l'observation suivante sur une espèce que nous n'avons pas vue." He then quotes Mr. Lowe's note as above, and adds:—"Il paraîtrait prouvé, en conséquence, que cette espèce intéressante se trouve vivante aux Canaries."

This species is the *R. lævigata*, Lam., and is also found at Madeira.

"13. *Bulla ampulla*."

D'Orbigny publishes this species under this name; but it is really a different species, the *B. punctata* of H. Adams. It is also found in Madeira.

"14. *Marginella glabella*. Very pretty, but, alas! very common. The animal is well figured and described by Adanson. It is so nearly allied to *Cypræa* that they will probably one day be united."

D'Orbigny says, "cette espèce . . . semblerait, au premier abord, devoir être réunie à la *Marginella aurantia*, Lam., en raison de ses couleurs et de sa forme; mais elle s'en distingue par la manque de dents sur sa lèvre," &c. I do not quite understand D'Orbigny here; for both the Canarian (*teste* Webb's types) and the Senegal specimens (*teste* Adanson, text and plate) have these teeth. It is not found in Madeira.

"15. *Columbella rustica*."

M. d'Orbigny gives this species, but spells it *Colombella*. It is Madeiran.

* There is further reference to these two sp. further on. See Nos. 12 & 18.

" 19. *Littorina vulgaris* (*Turbo littoreus*, Linn.)."

D'Orbigny has published this as a new species, *L. canariensis*; but it is the *L. striata*, King, which name has the priority.

It is also found in Madeira.

" 20. *Turbo rugosus*, Linn. & Lamk."

D'Orbigny gives this species, which is also Madeiran.

" 21. *Natica porcellana*, nob. *N. mamillæ* and *N. effusæ* affinis. Found also in Madeira. I want it of all things with the operculum. As many more as you can spare."

M. d'Orbigny spells this name with one *l*. In the text it bears no name; but on the plate it has that of "d'Orb."

" 22. *Cerithium lineolatum*, nob. Adans. t. 10. f. 5, 'le De-gon,' not taken up by Lamk. More."

M. d'Orbigny refers to a small var. of *C. vulgatum*, Brug., which is, no doubt, this species. It is not found in Madeira, but, like the *Nassa* above mentioned, seems to abound in the Selvagens.

" 31. — *vulgatum*, Lamk., Adans. t. 10. f. 3. 'Le Goumier,' p. 156. 'J'ai trouvé cette espèce dans les endroits vaseux de l'isle Ténérif et de celle de Fayal.'"

It is thus given by D'Orbigny.

It is not found in Madeira.

" 23. *Buccinum scrobiculator*, nob.; *Triton scrobiculator*, Lamk.; *Murex scrobiculator*, L."

This is *Ranella scrobiculator*. It is given by D'Orb., and is found in Madeira.

" 24. *Mitra melaniana*, Lam. Much higher-coloured than in Madeira."

D'Orbigny publishes this as *M. nigra*, Chem. It is the *M. lutescens*, Lam., of the Mediterranean, and the *Mitra fusca*, Reeve. It is found at Madeira, as Mr. Lowe mentions; but the difference of colour he adverts to is not found in the better specimens.

" 25. *Voluta porcina*, Lamk."

D'Orbigny has published this species under this name; but, according to Lowe, in his very able paper on *Cymbium*, given in his notes to his Mogador shells, this is an erroneous identification, and the species here in question is really *Cymbium (Voluta) rubiginosum*, Swains. Further, Mr. Lowe rejects this altogether as a Canarian shell, founding his decision, not merely on circum-

stantial evidence, which is strong, but also on a letter of Mr. Webb's, who wrote (in 1830):—"The reason why many of the shells I sent are in a bad state is that they are *collected by the fishermen on the opposite continent of Africa.*" Mr. Lowe, accordingly, referring this specimen and those of D'Orb. to the *V. rubinosa*, var. *β. incurva*, gives as its "Hab. Mogador and coast of Africa, opposite Lanzaroté. Webb; Lowe."

Neither of these species is Madeiran.

"26. *Buccinum olearium*, nob. *Murex olearium*, L. Can you not get me a live specimen of this size?"

D'Orbigny publishes this as the *Triton pileare* of Linn. and Gmelin, and gives *T. succinctus*, Lam., as a synonym. It seems generally admitted that *T. pileare* is a different species, from the Indian Ocean, and that *T. succinctus*, Lam.=*T. olearium* (Linn. part), Desh., must give place (see Weinkauff, Conch. d. Mittelmeeres, ii. 77, and Monterosato, Notiz. i. a. Conchiglie Mediterr.) to the older name given by V. Salis, of *T. parthenopeus*.

It is also Madeiran in a dwarf form.

Along with this specimen is another shell in bad condition, which Mr. Lowe had evidently accepted as the same species. I believe it to be a large form of a Madeiran species, which I propose to publish as new under the name of *T. anceps*.

"27. *Triton nodiferum*, Lamk."

Thus given by D'Orbigny. It is also Madeiran.

"28. *Haliotis tuberculata*."

Thus given by D'Orbigny. It is also Madeiran.

"29. *Patella solida*, nob.; *P. aspera*, Lam.? Plentiful in Madeira."

The paper thus numbered and named by Mr. Lowe contains two shells, of which the one is *P. Lowei*, D'Orb., = *P. aspera*, Lam.; and the other is *P. cærulea*, Linn., = *P. crenata*, Gmel. Both are common in Madeira.

There is a great deal of confusion regarding the synonymy of these two; but without going into that question, and without discussing the correctness of D'Orbigny's names for them, this is certain, both from the shells and from the animals both in Madeira and in the Canaries, that there are two well-marked species demanding the recognition of distinct names, and that D'Orbigny has done well to distinguish them. If the names

aspera and *crenata* are really nothing but different names for the same shell, as Weinkauff asserts, it is quite certain that the *Patella* which D'Orbigny has described under the name of *P. Loweii*, is a separate species.

“ 30. *Cypræa spurca*, Linn.”

Thus given by D'Orbigny. It is also Madeiran.

“ 31. *Cerithium vulgatum*. See above.”

“ 32. *Cypræa lurida*.”

“ Thus given by D'Orbigny. Also Madeiran.

“ 33. }
34. } 0.”
&c. }

I suppose this implies that these numbers were not represented by specimens.

“ 41. *Conus grandis*, Sowerby, Gen. Capital. More.”

This is published by D'Orbigny under the name of *C. prometheus*, Brug.; and Mr. E. Smith informs me that the type from Canary deposited by D'Orbigny in the British Museum is “ a small specimen of this species belonging to the variety which has been named *C. siamensis*.” The species is unknown in Madeira. Is it really Canarian?

“ Sent afterwards.”

“ *Patella guttata*, nob. From Isleta of Grand Canary.”

To this is added in pencil, “ common in Madeira.”

D'Orbigny publishes this species under this name. In the text no name of authorship is given; but in the plate (vii. 13-15) it is attributed to “ d'Orb.”

It is (*fide* J. Gwyn Jeffreys in litt.) the *P. rustica*, L. & Dill., = *P. lusitanica*, Gmel., = *P. punctata*, Lam., = *P. nigropunctata*, Reeve.

An account of some New Species, Varieties, and Monstrous Forms of Medusæ. By GEORGE J. ROMANES, M.A., F.L.S., &c.

[Read April 6, 1876.]

WHILE engaged last summer on an experimental inquiry into the distribution and physiology of the nervous system in Medusæ, I observed that several of the naked-eyed species which I hap-